PROCEEDINGS

OF THE

Hawaiian Entomological Society

VOL. VI, NO. 2. FOR THE YEAR 1925. JULY, 1926

JANUARY 8, 1925.

The 229th meeting of the Hawaiian Entomological Society was held at the Hawaiian Sugar Planters' Association Experiment Station at the usual hour.

President Williams presided. Other members present were Messrs. Rosa, Swezey, Muir, Illingworth, Willard, Lutken, Van Zwaluwenburg, Bryan, Fullaway, Pemberton, and Ehrhorn.

The minutes of the last meeting were read and approved.

The Executive Committee reported that it had approved the bill for printing 1923 Proceedings, and that the bill had been paid by the trustees of the Hawaiian Sugar Planters' Association. Mr. Swezey moved that a vote of thanks be given to the Association for this assistance, and a copy of the Proceedings be sent to the members of the board of trustees. Carried. The following appointments were also reported: Custodian, Dr. F. X. Williams; Librarian, Joseph Rosa; Editor, O. H. Swezey.

PAPER.

"Observations on Chrysomyia Megacephala Fabr., Our Common Blow-Fly, in the Orient."

BY J. F. ILLINGWORTH.

NOTES AND EXHIBITIONS.

Monomorium fossulatum seychellense Emery. — Mr. Swezey exhibited queens and workers of this ant from a small colony that he had found among cane roots at Grove Farm Plantation, Kauai, April 21, 1922. This ant was first recorded by Mr. Timberlake at the March, 1924, meeting of the Society, when he reported its having been determined by Doctor Wheeler. It was then recorded from Honolulu, Makiki and Puuloa, Oahu, and Honokaa, Hawaii. This Kauai record extends the distribution of this ant in the Islands. Recently Mr. Van Zwaluwenburg has found it in soil of cane-fields at Waipio, Kahuku and Puuloa, Oahu, which indicates that it has a very general distribution here.

Nesocrabro stygius (Blkb. and Cam.).—Mr. Swezey exhibited two males of this wasp which issued from cocoons that he found in an excavation in a piece of rotten wood of *Elaeocarpus* tree lying on the trail at about 1500 feet elevation in the forest above Kahuku, Oahu, November 23, 1924. The wasps issued December 8 and 11. Similar nesting habits for this wasp were recorded by Mr. Bridwell in 1916, he having found a nest provisioned with *D~~i~~yscritomyia* flies, which seems to be what were used in the present case, from the fragments remaining. Doctor Perkins has recorded this wasp as preying on these flies.

Syrphus opinator O. S.—Mr. Swezey exhibited a specimen of this syrphid fly which emerged December 31, 1924, from a puparium found in celery imported from California. This illustrates one way that an occasional immigrant insect may arrive. In this case a beneficial insect, if enough of them could arrive and become established, as it is a predator on plant lice.

Trigoniulus lumbricinus (Gerst.).—Mr. Swezey reported the recent determination of this large brown millipede by R. V. Chamberlain of the Museum of Comparative Zoology, Cambridge, Mass. Kirkaldy first recorded this Myriapod in December, 1906, as a recent immigrant. A number of years after that date it was occasionally found among cane trash at the Experiment Station, Hawaiian Sugar Planters' Association. The past three or four years it has been found more abundant, and at present is in countless thousands feeding in a compost heap composed of decaying sugar-cane leaves that have been heaped up for composting. The disintegration of the mass is greatly hastened by the feeding of these numerous millipedes. Mr. Chamberlain wrote of this millipede that it was probably East Indian in origin, but now widely distributed on tropical islands and in tropical countries and has reached the West Indies.

Orphnaeus brevilabiatus (Newp.).—This is a centipede which was also determined by Mr. Chamberlain at the same time as the above. It is a very slender one about three inches long when fully extended. Mr. Swezey found two specimens in an old mud-dauber wasp nest on the under surface of an overhanging rock in Waimalu Valley, Oahu, March 2, 1924. Mr. Chamberlain wrote that this was a tropicopolitan form, and that he had seen several other specimens from Hawaii. He did not state whether previously recorded from Hawaii. Perhaps this is the first record.

Odynerus oahuensis D. T.—Doctor Williams exhibited specimens of *Odynerus oahuensis* reared in December 26 (♂), December 31 (♀), 1924, from nests collected at Waikane, Oahu, December 14, 1924, and read notes on the habits of this wasp, which builds mud cells instead of utilizing holes in soil or rock as other native species of *Odynerus* do.

Fiji Topography and Flora.—Mr. Bryan exhibited a large series of photographs illustrating Fiji topography and flora. They were taken by him during his exploration trip there in 1924.

Coptotermes intrudens Oshima.—Mr. Swezey reported finding specimens of this termite in a telephone pole a mile up in Palolo Valley.

Plague Flea.—Mr. Pemberton exhibited specimen of the plague flea (*Xenopsylla cheopis* Roths.) and gave notes on its occurrence in Hawaii. He stated also that the common flea on dogs here is the cat flea (*Ctenocephalus felis* (Bouche)), and that the dog flea has not been found in Hawaii.

FEBRUARY 5, 1925.

The 230th regular meeting of the Hawaiian Entomological Society was convened at the usual place at 2:30 p. m., President Williams in the chair. Other members present: Messrs. Bryan, Crawford, Ehrhorn, Giffard, Illingworth, Lutken, Muir, Pemberton, Rosa, Swezey, Van Zwaluwenburg, and Willard. Prof. J. H. Comstock and Anna Botsford Comstock were visitors.

The minutes of the January meeting were read and approved.

Mr. Giffard read a radiogram to the Bishop Trust Company of Honolulu, notifying them of the death of Mr. Albert Koebele, an honorary member of this society.

Upon motion of Mr. Giffard, it was voted that the president appoint a committee to write an obituary, and to formulate a resolution expressing the regrets of the society occasioned by the loss of such an esteemed member; both of which to be read at our next meeting.

On invitation of the president, Professor and Mrs. Comstock made a few remarks.

Professor Comstock expressed surprise at finding such a strong organization of entomologists in Hawaii. He stated that, although he had taught many economic entomologists, he felt like a novice in economic entomology here, where so much had been, and is being, accomplished along that line. His account of the development of the Department of Entomology at Cornell University was of particular interest. When he entered Cornell in 1871, there was no course in entomology there, although interest in the subject was beginning to be manifest. During his sophomore year, 1872, he was called upon to deliver a course of lectures in Entomology, while during his junior year he was made Instructor in Entomology. Dr. David Starr Jordan, for many years president of Stanford University, and Dr. L. O. Howard, chief of the Bureau of Entomology, United States Department of Agriculture, were both students of his during these first two years. Many of the prominent entomologists of today received their early training under Professor Comstock at Cornell. From the modest beginning of a course of lectures given by one instructor in 1872, the Department of Entomology steadily grew under the direction of Doctor Comstock, until some ten years ago, when he relinquished active charge of the department, it required thirty professors and instructors to care for the students desiring instruction in Entomology.

Mrs. Comstock gave an interesting account of her work in Entomology, stating that she began her work by assisting her husband in making pictures of microscopic insects. Later she learned wood-engraving, to assist him in publishing his "Manual for the Study of Insects." She said that she had been working in Nature Study for the past thirty years, and related considerable of her experiences therewith.

PAPERS.

"The Genus Popillia, with Its Natural Enemies in the Orient."

BY J. F. ILLINGWORTH.

"The Common Muscoid Flies Occurring About Sweet-Shops in Yokohama, Japan."

BY J. F. ILLINGWORTH.

"Distressing Itch from a Moth, Euproctis flava Bremer, in the Orient."

BY J. F. ILLINGWORTH.

NOTES AND EXHIBITIONS.

Lysiphlebus testaceipes Cress. Mr. Swezey reported finding this braconid established in a corn-field at the United States Agricultural Experiment Station January 24, 1925, where there was considerable infestation by *Aphis maidis* Fitch. The parasite was introduced from Whittier, California, in February, 1923. Mr. Timberlake found aphids highly parasitized by it there at that time and sent a quantity of material to Honolulu, from which nearly 4000 parasites issued for liberation. These were liberated about Honolulu in many places where infestations by various aphids were found. This is the first record of its recovery. On February 4, a few cane aphis were found parasitized by it at the Experiment Station, Hawaiian Sugar Planters' Association, where the aphis was very scarce.

Parasite of Gray Sugar-Cane Mealybug.—Mr. Swezey reported rearing a new parasite from *Pseudococcus calceolariae,* collected January 17 on sugar-cane at the Manoa substation. Fourteen of them had already issued from a few of the mealybugs brought in. This is the first recovery of this undetermined mealybug parasite, which was introduced from Mexico in 1922.

Three specimens were found in the collection, labeled as reared by Osborn from *P. calceolariae,* July, 1922, at El Potrero, Vera Cruz, Mexico. Several mealybug parasites were being sent from Mexico at that time, and this must have been among them, but no definite records of it were found.*

Bruchus Near Coryphae Oliv.—Mr. Swezey reported finding seeds of *Ipomoea pes-caprae* infested by this beetle on the beach east of Waimanalo, February 1, 1925. This extends its known distribution from Barber's Point around the south coast to Waimanalo.

Desmometopa m-nigrum (Zett.).—Mr. Illingworth bred this agromyzid fly in abundance from mascerated hen manure in March, 1916. (See Proc. Haw. Ent. Soc., Vol. V, p. 270.) Specimens were sent at that time to the United States National Museum for identification, and recently Doctor Aldrich of that institution has identified it as above.

Lispa metatarsalis Thoms.—On May 20, 1916, Mr. Illingworth captured a specimen of this anthomyid fly and sent it to the United States National Museum for determination. Doctor Aldrich has recently determined it as above. Apparently the specimen sent became broken, for Doctor Aldrich returned the pin containing the data, and also a specimen collected by W. H. Ashmead, having the following data: "Kilauea, Hawaii, 4000 feet altitude, 21.7." This is the only known specimen now in Hawaiian collections, though the species was described from Honolulu by Thomson in 1868.

Pulsation of Dorsal Vessel of Wasp Larvae.—Mr. Williams stated that the pulsation of the dorsal vessel of wasp larvae may be slower or faster, according to the physiological condition of the larva. It is slow when hibernating and quite fast when the larva is approaching pupation. In the rolled up and more wrinkled larvae, there are from five to nine beats per minute; while in the distended and unrolled larvae near pupation there are from thirty to thirty-two beats. He observed also that the heart beats of a tiger beetle larva, which had been paralyzed by a Brazilian Pterombus wasp, were 12.5 per minute; while the pulsations of the normal beetle larva were about thirty per minute. He noticed that after several minutes of beats there would be a pause or rest in the pulsations. A similar pause had been noticed in 1924 by Gerould in a chrysalis of the butterfly *Colias eurytheme*.

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* Specimens were sent to Mr. Timberlake, who determined them as *Thysanus dactylopii* (Ashm.), and expressed the opinion that it was a secondary parasite.

Koenenia sp., belonging to the Palpigrada (Arachnida), was reported by Mr. Van Zwaluwenburg as first being recorded at the December, 1924, meeting as occurring in soil in Honolulu; but since it has later been found in soil samples from points as far apart as Honolulu, Waianae, and Kahuku, it is probably generally distributed on Oahu.

MARCH 5, 1925.

The 231st meeting of the Hawaiian Entomological Society was convened at 2:30 p. m. at the Experiment Station of the Hawaiian Sugar Planters' Association, President Williams presiding. Other members present were Messrs. Bryan, Crawford, Ehrhorn, Illingworth, Lutken, Muir, Giffard, Rosa, Swezey, and Willard. Prof. and Mrs. J. H. Comstock, R. W. Paine, and T. H. C. Taylor were visitors.

The minutes of the 230th meeting were read and approved.

A committee consisting of Mr. O. H. Swezey, Mr. W. M. Giffard, and Mr. F. Muir reported on the obituary of the late Mr. Albert Koebele.

NOTES AND EXHIBITIONS.

Danaus archippus Fabr.—This milkweed butterfly was recorded by Doctor Illingworth as a serious pest of an introduced shrub, *Calotropis gigantea* R. Br., which belongs to the milkweed family. This shrub is an introduction from India. The flowers are commonly used by the native Hawaiians for making leis. A large specimen of this plant in the Bishop Museum yard, has been almost entirely defoliated by the caterpillars during the past month.

Ptychomia remota Aldrich. — Mr. Bryan exhibited paratype specimens of this tachinid fly, which is a parasite of the xygaenid moth, *Artona catoxantha* Hamps., in the Federated Malay States. The moth is a serious enemy of coconut trees and is related to *Levuana iridescens* B.-B., the bad coconut pest of Fiji. The flies were bred by B. A. R. Gater, Kuala, Lumpur. The specimens were sent to the Bishop Museum by Doctor Aldrich, whose description is published in the Proc. Ent. Soc., Washington, Vol. 27, p. 13, January, 1925.

Xiphidiopsis lita Hebard.—A living female of this phasgonurid was exhibited by Mr. Swezey, with remarks on its habits. He had found that she ate corn aphis very voraciously, in confinement. When given 13 inch-long *Spodoptera* caterpillars, she had eaten them in two days. Apparently this is a beneficial insect. Further experiments will be made on its food habits.

Allograpta obliqua Say.—Mr. Swezey reported that four specimens of this syrphid fly had issued from a mass of leaves of Poinsettia infested with the mealybug *Pseudococcus virgatus*, which Q. C. Chock, Mr. Fullaway's assistant, was using in breeding lady beetles. This is an aphis-feeding species, but apparently it will feed on mealybugs also.

**Archytas* sp.—Mr. Swezey exhibited a specimen of this Mexican tachinid fly, caught by him on Hilo grass along the Manoa Cliffs trail on Mount Tantalus, February 23, 1925. This fly was reared by Mr. Osborn from armyworms collected in sugarcane at Los Mochis, Sinaloa, Mexico, in January and February, 1924. A batch of pupae of *Cirphis latiuscula* Herr.-Sch. were sent to the Experiment Station. They were received February 12. From these, fifteen tachinids of three species issued, 1, 3, and 11 of each, respectively, from February 12 to 26, mostly February 20 to 24. Nine of these flies were liberated February 25 at the United States Experiment Station in a citrus orchard where there were armyworms on nutgrass. Doctor Williams observed one or more of the flies in another part of the station grounds about February 20, 1925, which was the first intimation that they had become established. The present capture at so distant a place would indicate that it is well established.

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* Specimens have been named *Archytas cirphisae* n. sp. by Mr. C. H. Curran, but no published description has yet come to our notice.—Editor.

Cylene crinicornis Chevr.—Mr. Swezey exhibited a specimen of this longicorn beetle reared from a log of *Poinciana regia* wood, and reported having reared it similarly from *Albizzia lebbek*. This is the beetle known as the kiawe beetle on account of its habit of breeding so commonly in felled kiawe trees. These records indicate that it is not restricted to kiawe as a host.

Lycaena blackburni Tuely.—A specimen of this native Hawaiian butterfly was exhibited by Mr. Swezey, which had been found by him at rest on a ladder on a Japanese naval boat berthed at Pier 9, Honolulu harbor, February 28, 1925. It is the first time the species has been taken by him at sea-level, as it usually remains in the mountain forests. A specimen of it was also taken in February, 1925, in the citrus orchard of the United States Experiment Station.

Mrs. Comstock gave a very entertaining talk on her observations of entomologists, which was followed by a talk by Professor Comstock, in which he gave some very interesting reminiscences of his early experiences in Entomology.

APRIL 2, 1925.

The 232nd meeting of the Hawaiian Entomological Society was held at the usual place at 2:30 p. m., President Williams in the chair. Other members present: Messrs. Bryan, Crawford, Ehrhorn, Giffard, Lutken, Muir, Swezey, Rosa, Illingworth, Van Zwaluwenburg, and Willard. D. LeRoy Topping was a visitor.

The minutes of the 231st meeting were read and approved.

The acting secretary reported that $30 had been voluntarily subscribed by members of the society, and sent to the Zoological Society of London to assist in the publication of the Zoological Record.

PAPERS.

* "Oestrus ovis and Ocular Myiasis."

BY D. L. CRAWFORD.

"Notes on Sarcophaga fuscicauda Böttcher (Diptera)."

BY J. F. ILLINGWORTH.

"Notes on Chrysomyia megacephala Fabr. (Diptera)."

BY J. F. ILLINGWORTH.

NOTES AND EXHIBITIONS.

Xylocopa varipuncta Patton.—Mr. Williams noted that this insect, feeding on Convolvulus flowers in Honolulu, evidently knew that it could not force its bulk far into the corolla, paused but a moment, if at all, at the wide bell, then flew over the top of the flower and drew the nectar through a slit made at the base of the corolla. In Campinas, Brazil, he noted certain metallic bees feeding at other tubular flowers, probably Bignoniaciae, in the same manner, attacking them at the base immediately, where there were one or more slits. A few other bees, among them a large species probably parasitic, entered the tubular corolla, but with what success he did not know.

Chiromyia (Scyphella) flava (Linn.). — Mr. Bryan exhibited two specimens of this yellow geomyzid fly, with the following note on its occurrence in Hawaii. In 1918 Mr. Giffard included this species in a list of "Samoan insects which also occur in Hawaii." (Proc. Haw. Ent. Soc., IV, p. 181.) A specimen was secured from Doctor Aldrich to compare with local material, and so far one specimen has been found, labeled Barber's Point, 12-23-23, O. H. Swezey. It happens, however, that the specimens from Samoa do not belong to this species, but are an undetermined species of Anthomyidae, which also occurs in Hawaii. This would indicate that *C. flava* is present in Hawaii, but not in Samoa. Concerning the specimen from the United States National Museum, Doctor Aldrich says: "*Chiromyia flava* occurs only on windows, especially in damp places, such as basements. I obtained quite a series, including the one I am sending you, on laboratory windows at Friday Harbor, Washington, the building standing on piles over the edge of the ocean." Malloch gives a key to this and related species, Proc. Ent. Soc., Washington, V. 16, pp. 179-181, 1914. The species also occurs in Europe.

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* Not available for publication.—Editor.

Gynandromorph Ant.—Mr. Swezey exhibited a specimen of ant found by him in a nest in the remains of a compost heap at the Experiment Station, Hawaiian Sugar Planters' Association, March 20, 1925. The left antenna of this specimen was that of a male, while the right antenna was that of a female. The species was apparently *Cardiocondyla nuda minutior* Forel.

Celerio perkinsi Sw. — A fine specimen of this rare native sphingid moth was exhibited by Mr. Swezey. He had reared it from a small caterpillar he had found on *Kadua* on Malamalama ridge, Oahu, February 8, 1925.

In rearing the caterpillar, it was fed mostly on leaves of *Straussia,* as they were more readily obtainable. The caterpillar pupated March 6, and the adult moth emerged March 30. The caterpillar stage was over a month, and the pupal stage twenty-four days.

Xyphidiopsis lita Heb. — Reporting on further experiments with this phasgonurid, Mr. Swezey stated that it ate tineid moths, *Gracilaria marginestrigata* Walsm., sixteen of them in twenty-four hours. It did not eat *Pseudococcus sacchari* much, but did eat extensively of *Cerataphis* when supplied. When fed with flowers of several kinds, it ate hibiscus corolla and stamens to a slight extent, and the corolla of *Bignonia venusta* slightly; but geranium flowers not at all. These observations seem to indicate that the insect is chiefly insectivorous. Two weeks before it died, twenty-seven eggs were laid loosely in the cotton plug closing the mouth of jar in which confined. The egg is flattish cylindrical, slightly over 2 mm. long, ends rounded and with a groove extending a short distance down one side, that from one end a little longer than the other; white, surface minutely roughened with very fine mosaic structure, as shown under microscope.

Meliphora grisella Fabr.—Two specimens of this bee moth were exhibited by Mr. Swezey, which he had reared from larvae found feeding on honeycomb in the cavity of a stump in a valley along the Firebreak Trail at the base of Mount Kaala, October 26, 1924. This had been a "bee tree" which had been robbed by someone previously. Some moths were about the fragments of comb left. A few of the larvae were found, and a piece of comb taken along for them to feed on. They seemed to require considerable time to mature, for the moths did not issue until March 24 and 30, respectively, five months after their capture.

Anastatus koebelei Ashm.—Mr. Swezey exhibited two specimens of this eupelmine reared respectively from eggs of *Celerio calida* Butl. and *Elimaea punctifera* Walk. The egg of *calida* was found on a leaf of *Scaevola chamissoniana* on a ridge in Manoa Valley, March 15, 1925. The parasite issued March 29. The egg of *Elimaea* was in a coconut leaf, and the parasite had issued on March 23. The parasite had been reared from the latter host a number of times, but it is thought that this is the first record of it from a sphingid egg.

Chrysopa lanata Banks.—Mr. Swezey reported having recently received this determination by Nathan Banks for this immigrant chrysopid, that has been known in the Islands since its first discovery by Mr. Timberlake, being reported by him at the November meeting, 1919. Mr. Banks gives its distribution as Peru, Chile, Argentina, and South Brazil. It was described by him from Argentina in 1910.

Engytatus geniculatus Reuter. — Mr. Swezey reported having obtained this name, determined by E. P. Van Duzee, for the small mirid bug which was discovered on tomato plants in August, 1924. Mr. Van Duzee stated that it occurred "from Florida to Texas and through Arizona to Southern California. Also in Sonora and Lower California." He had not taken it often, and had no records of its food plants. Apparently it is not to be feared as a new pest here. A few could always be found on tomato vines ever since their first discovery in August, but they have not been found on anything else yet.

Lepisma cincta Oudemans. — A very large silverfish was exhibited by Mr. Swezey. It was found by Mrs. Madden in a box of carbon-paper sheets. It is larger than the common silverfish, more hairy, and of a darker slaty color with a white posterior band on the prothorax. Apparently the first time that the species has been noticed in Honolulu. It resembles a picture of *Lepisma cincta* in the Cambridge Natural History. It may turn out to be that species, described in 1890 from Java by Oudemans.

Insects on Board Ship at Sea.—Mr. Illingworth exhibited the following seven species of insects, captured on board the S.S. President Lincoln, during his voyage from Shanghai, September, 1924.

1. Blow-fly, *Chrysomyia megacephala* (Fabr.).
2. Grasshopper, *Atractomorpha ambigua* Bolivar.
3. American cockroach, *Periplaneta americana* (Linn.).
4. German cockroach, *Blatella germanica* (Linn.).
5. Cattle-fly, *Musca convexifrons* Thoms.
6. Preying mantid, undetermined.
7. Male moth, undetermined.

Mr. Illingworth stated that this is a vivid illustration of how such winged pests are constantly coming to us by the ships of commerce. Even the most stringent and efficient quarantine system availing little against such foes. They easily fly over the heads of boarding officers and land at any port of call. It will be noted, he said, that the first four species are already well established in Hawaii. Attention was called to the fact that the type locality for the grasshopper is Shanghai. Mr. Illingworth found it widely distributed in the Pacific, it being abundant in China, Japan, Australia, etc. He pointed out, further, that the fifth species is a very troublesome fly around stock, both in Queensland and the Orient. Though not a bloodsucker, it is particularly anoying to both man and beast, by its persistent attempt to get at the mucous membranes, especially around the eyes, nose, and mouth. Experimenting with this fly in Queensland, Mr. Illingworth found that it is a viviparous species, breeding normally in cow-dung.

Insects Taken in Quarantine.—Mr. Ehrhorn exhibited a parasite, reared from *Aspidiotus* sp. on ginger from the Philippines found in baggage. He exhibited, also, some Hymenoptera * reared from galls on bamboo, used as brooms, from Japan. These brooms were dipped in corrosive sublimate for fungi, and fumigated with carbon bisulphide for insects.

Archytas sp.—Mr. Rosa exhibited several specimens of this tachinid fly, which was recently introduced from Mexico as a cutworm parasite. He stated that he had observed them in large numbers on milkweed plants around his residence.

MAY 7, 1925.

The 233rd meeting of the Hawaiian Etomological Society was held at 2:30 p. m. at the Hawaiian Sugar Planters' Association Experiment Station, President Williams presiding. Other members present were Messrs. Bryan, Crawford, Ehrhorn, Lutken, Muir, Rosa, Swezey, Willard, and Van Zwaluwenburg. Dr. A. D. Imms, in charge of Entomology at the Rothamsted Experiment Station at Harpenden, England, was a visitor.

The minutes of the April meeting were read and approved.

Doctor Imms was asked to make a few remarks. He outlined the founding and development of the Rothamsted Experiment Station, and gave a very interesting review of the entomological work being carried on there.

PAPER.

"Some Observations on the 'Silverfish' Lepisma Saccharina."

BY HELENE MORITA
University of Hawaii.
(Presented by D. L. Crawford.)

NOTES AND EXHIBITIONS.

Lyctus planicollis Leconte.—Mr. Willard exhibited specimens of this powder-post beetle taken by him in the United States

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*These were later determined as *Aeolomorphus rhopaloides* Walker.—Editor.

Army warehouses at Schofield Barracks, April 16, 1925. He exhibited also hardwood tool-handles, which had been badly attacked by this beetle.

Orneodes objurgatella Walsm.—Mr. Swezey exhibited specimens of this moth reared from the seeds of *Plectronia odorata.* He had collected 136 fruits from a *Plectronia* tree at about 1000 feet elevation at Keawaula, toward the northwest point of Oahu, April 12. From these fruits, between April 20 and May 1, one hundred *Orneodes* moths had issued, showing a very high infestation. There had also issued six specimens of *Heterocrossa* sp. and one *Secodella metallica* (Ashm.), the latter being a parasite on one of the others.

Insects from Rotten Plumieria.—The following insects were reported as having been reared from rotten *Plumieria* stems by Mr. Swezey. On April 4, Mr. Giffard brought in half a dozen dead branches cut from his *Plumieria* trees. They were badly infested with larvae of a cerambycid beetle. From April 6 to May 6, a large number of insects issued from these branches where contained in a large glass jar. The following is the list:

Five *Lagocheirus obsoletus* Thoms.
Four *Lagocheirus obsoletus* pupae, remaining in branches.
Four *Lagocheirus obsoletus* larvae, remaining in branches.
Hundreds of a Mycetophillid.
Few Psychodids.
Two or three other Diptera.
Eight *Opogona aurisquamosa* (Butl.).
Nine *Opogona purpuriella* Sw.
One *Areocerus fasciculatus* (DeGeer).
Five *Dactylos~~p~~ter~~m~~num abdominale* (Fab.).
Four small Staphylinids.
Numerous Acari on the *Lagocheirus* and *Dactylospermum* beetles.

Stenommatus musae Marshall.—Mr. Swezey reported having received a recent letter from Dr. G. A. K. Marshall in which was the following mention of this small banana weevil: "You will remember that in 1920 I described a species of *Stenommatus* which you found breeding in numbers in the root of a banana plant. It may interest you to know that I recently received some Cossonids found in a similar position on bananas in South Africa. These bananas had been imported from Java. Five specimens were represented, four of which proved to be a new species of *Pentarthrum,* and the other was a specimen of *Stenommatus musae*. It seems, therefore, fairly certain that your insect must have been imported in bananas from the East."

JUNE 4, 1925.

The 234th meeting of the Hawaiian Entomological Society was held at 2:30 p. m. at the Experiment Station, Hawaiian Sugar Planters' Association. In the absence of president, vice-president, and secretary, Mr. Muir was selected to take the chair. Other members present were Messrs. Bryan, Crawford, Ehrhorn, Rosa, Swezey, and Van Zwaluwenburg. Mr. F. C. Hadden, a recent graduate in Entomology from the University of California, was a visitor.

Mr. Bryan was appointed to act as secretary. The minutes of the May meeting were read and approved.

Mr. Hadden, who had been president of the Entomology Club of the University of California, brought greetings from some of its members.

PAPER.

"Table for Distinguishing the Hawaiian Species of the Genus Dryophthorus of Curculionidae, Cossoninae (Coleoptera)."

BY O. H. SWEZEY.

NOTES AND EXHIBITIONS.

Thecla echion Linn.—A specimen of this butterfly was exhibited by Mr. Swezey, which he had reared from a larva found feeding on the green fruits of *Solanum nodiflorum* growing in a cane-field of Oahu Sugar Company, Waipahu, Oahu, May 11, 1925. This is one of the Lantana butterflies introduced from

Mexico in 1902. The larvae feed normally on Lantana flowers, but they have been found a few times feeding on fruits of the eggplant in gardens. This is the first record on the weed above mentioned.

Ilburnia leahi (Kirk.).—Mr. Swezey reported collecting this delphacid leafhopper on *Lipochaeta integrifolia* at Kaena Point, Oahu, May 31. This is the opposite extremity of the island from where it was first discovered, as it was described from Diamond Head (Leahi) by Kirkaldy, where he found it in 1904. This was the first species of Hawaiian Delphacidae described by Kirkaldy. Up to the present, 145 species and varieties have been described in this family.

Types of Tanager Expedition Coleoptera.—Mr. Bryan exhibited the type specimens of sixteen new species of Coleoptera collected in 1923 on the Tanager expeditions, and recently returned to the Bishop Museum by Doctor Perkins. He also read extracts from Doctor Perkins' paper, which will be published by the Bishop Museum as part of the report of the expeditions. The new species include twelve Rhyncophora, two Proterhinus, a Plagithmysus and a Cis, as follows:

Plagithmysus nihoae, Nihoa Island, on Euphorbia.
Dryotribus solitarius, Pearl and Hermes Reef.
Pentarthrum halodorum, Midway and Ocean Islands.
Pentarthrum pritchardiae, Nihoa Island, on Pritchardia.
Oodemas neckeri, Necker Island.
Oodemas breviscapum, Nihoa Island, on Euphorbia and bunch grass.
Oodemas erro, Nihoa Island, on Euphorbia.
Rhyncogonus exsul, Nihoa Island, on bunch grass.
Rhyncogonus biformis, Necker Island.
Rhyncogonus fallax, Wake Island, on a Tournefortia tree.
Sphaerorhinus pallescens, Wake Island.
Sphaerorhinus sordidus, Wake Island.
Acalles wilkesii, Wilkes Island (Wake Island), on Sida.
Proterhinus bryani, Nihoa Island, on Euphorbia.
Proterhinus abundans, Nihoa Island, on Euphorbia.
Cis vagans, Nihoa Island, on Euphorbia.

Among the specimens returned by Doctor Perkins is the type of *Rhyncogonus bryani* Perkins, collected by W. A. Bryan on Laysan, and described in the Ent. Mo. Mag., 1919, p. 4. This unique specimen and the other types will be deposited in the Bishop Museum.

New Species of Lucilia.—Mr. Bryan exhibited a series of specimens of *Lucilia graphita* Shannon, a new species described for specimens found on Laysan Island, Pearl and Hermes Reef, Ocean Island, and Midway Island by the Tanager expeditions. It differs from all other species of Lucilia, in being very dark, almost the color of graphite. The description will be published in the report of the expeditions.

Discomyza maculipennis.—Mr. Bryan exhibited a series of this small black ephydrid fly, recently identified by Mr. E. T. Cresson, Jr. This is the first record in Hawaii of a species which is distributed from the East Indies to the West Indies. The species was recently bred in abundance from some improperly cleaned sea shells at the Bishop Museum, brought back from one of the Whippoorwill expeditions. Specimens had also been collected by Bridwell in Honolulu (no date; about 1917), and one specimen by Bryan, Oahu plantation, September 22, 1922.

Olfersia spinifera Leach.—Mr. Bryan exhibited a series of specimens of this hippoboscid parasite on frigate birds, which had been found in abundance on the islands visited by the Tanager expeditions, 1923. That it also occurs occasionally on the main islands of the Hawaiian group, is shown by a specimen collected at Puu Ka Pele, Kauai, September 4, 1920, by O. H. Swezey. This species was determined by Malloch. One other species, *O. arcuata* Speiser, is recorded in the Fauna Hawaiiensis from Hawaii, on frigate birds.

Itodacnus n. sp.—Mr. Bryan exhibited specimens of this elaterid beetle, which had been collected on Necker Island, 1923. He quoted Mr. Van Zwaluwenburg, who is working up the elateridae, as saying that this species is closely allied to species of this genus on Kauai, the larvae being almost indistinguishable.

After an informal discussion of the safeguarding of collections and reference libraries, the meeting adjourned at 3:45 p. m.

JULY 2, 1925.

The 235th meeting of the Hawaiian Entomological Society was held at the usual place, Vice-President Willard in the chair. Other members present were Messrs. Bryan, Crawford, Ehrhorn, Giffard, Illingworth, Lutken, Muir, and Swezey. Mr. H. S. Sharp was a visitor.

In the absence of the secretary, Mr. Bryan was appointed to fill that office. The minutes of the previous meeting were read and approved.

The name of Mr. F. C. Hadden was proposed for membership in the society.

Mr. Bryan presented the manuscript of an index to volume 5 of these proceedings.

NOTES AND EXHIBITIONS.

Engytatus geniculatus Reuter.—Mr. Swezey reported collecting this new immigrant bug on tomato-vines growing as a weed in cane-fields at Kahuku, June 26. This is the only place he had collected it since having first found it on tomato-vines in his garden in Manoa in August, 1924. It indicates that it is very widely spread on Oahu.

Lysiphlebus testacipes Cress.—Mr. Swezey reported the finding of *Aphis medicaginis* abundantly parasitized by this braconid on *Portulaca oleracea* in a cane-field at Waialua, June 26. This aphid parasite was introduced from California in February, 1923. It was abundantly spread about Honolulu, but none was liberated in the vicinity of Waialua. It has apparently become widely spread of itself during the two years since its introduction. It has been common on *Aphis maidis* on corn at both the Federal Experiment Station and University of Hawaii farm.

Head Capsules and Mouth-Parts.—Mr. Muir stated that he had been investigating the homologies of the head of Homoptera. He has concluded from these investigations that the sclerite known as the *lora* was the homolog of the *gena* and was not a part of the mandible, as stated by Smith and accepted by Comstock.

Monomorium pharaonis Linn.—Doctor Illingworth reported this ant as bothering passengers in their bunks on board a passenger steamer on the trip over from Los Angeles. Mr. Ehrhorn stated that this ant is common on vessels, and is also a house ant in Hawaii. A discussion followed on the spread of insects by shipping. It was mentioned that, while the common house-fly of North America and Europe, *Musca domestica* Linn., is frequently abundant on vessels, it is seldom if ever captured in Honolulu. Our house-fly is the Oriental and Pacific species, *Musca vicina* Macquart. Attention was called to the abundance of flies in southern California.

AUGUST 6, 1925.

There being no quorum, no meeting was held.

SEPTEMBER 3, 1925.

The 236th meeting of the Hawaiian Entomological Society was held at the usual place, President F. X. Williams in the chair. Other members present were Messrs. Bryan, Giffard, Hadden, Illingworth, Swezey, and Van Zwaluwenburg. Miss Gertrude Henderson was a visitor.

The acting secretary was authorized to record that a meeting had been called for August 6, but adjourned for lack of a quorum.

Upon motion of Mr. Giffard, the rules were suspended and the acting secretary cast a unanimous ballot electing Mr. F. C. Hadden an active member.

PAPERS.

"Descriptions of New Species of the Dipterous Family Ephydridae from Hawaii."

BY E. T. CRESSON, JR.,
Academy of Natural Sciences, Philadelphia.

(Presented by E. H. Bryan, Jr.)

"Additional Notes on the Insects on Mauna Kea and Mauna Loa."

BY E. H. BRYAN, JR.,

NOTES AND EXHIBITIONS.

California Beetles.—Mr. Hadden exhibited a named collection of the larger beetles which he had collected in California.

Euscepes batatae Waterhouse.—Mr. Bryan exhibited a series of this weevil, and reported that he had found it very abundant in a number of sweet potatoes purchased at a local market. The sweet potatoes were riddled with holes, in which the grubs were abundant.

Hypothenemus ruficeps Perkins.—Mr. Van Zwaluwenburg reported that this scolytid was reared from a log of *Spondias* sp. brought in by Mr. McEldowney, August 19. This specimen agrees closely with one identified by Mr. Swezey, except that it has a dark suffusion on the posterior third of the pronotum.

Cyrtorhinus mundulus (Bredd.) — Mr. Van Zwaluwenburg stated that adults and nymphs of this bug were found in canefields at Hana, Maui, June 26. This is the first record of this species from eastern Maui.

Ammophorus insularis Boh.—Mr. Hadden reported that he and Mr. Swezey had captured specimens of this rare tenebrionid beetle under rocks and refuse on Ewa Coral Plain, September 2.

Sarcophaga plinthopyga Wd.—Doctor Illingworth stated that he had bred three specimens of this fly from maggots collected on dead fish near Makapuu Point last April. This is a new name for *S. robusta* Aldrich, the correction having been made by Doctor Aldrich after seeing Wiedemann's type. This species was first found in Hawaii by Doctor Illingworth in 1917 (Proc. Haw. Ent. Soc., III, p. 383), breeding in meat. He recently found it very abundant in southern California. It closely resembles our common large *Sarcophaga barbata,* but may be distinguished by the characters given in Mr. Timberlake's key (Proc. Haw. Ent. Soc., III, pp. 371-2). One other specimen was captured by Mr. Swezey in Kaimuki, March 14, 1921.

Ichneumonid.—Mr. Swezey exhibited two specimens of a new immigrant ichneumonid which issued from chrysalids of *Vanessa cardui.* The caterpillars of this butterfly were collected on a roadside weed on Mount Tantalus, July 4.

Holochlora japonica Brunn.—Mr. Swezey reported finding this large katydid in a cane-field of the Waialua Agricultural Company, July 15. It was near Kawaihapai, and is the farthest from Honolulu that the occurrence of this insect has been noted.

Engytatus geniculatus Reuter.—Mr. Swezey reported the finding of this bug on tomato-vines at Kailua, July 12, and at Ewa Plantation, July 3. This shows that the bug is very generally spread on Oahu, as it was previously reported from Manoa Valley and from Kahuku.

Archytas sp.—Mr. Swezey reported the capture of this Mexican tachinid in the forest of Opaeula, July 19, also on Olomana needle, July 12, thus indicating further the spread of this fly on Oahu. Mr. Williams stated that he had observed it feeding on Cyathodes at the southeast base of Mount Kaala, elevation about 1500 feet.

Omiodes blackburni (Butl.).—Mr. Swezey reported that the coconut leaves of palms on Kauai were in very perfect condition and not badly injured by this leaf-roller. Examination disclosed that the cocoons of *Cremastus hymeniae* were very numerous, and explains the condition of the leaves. Seventeen caterpillars were found on a palm at the Lihue Hotel. Of these, sixteen yielded the parasite *C. hymeniae.* Mr. Giffard stated that coconut palms on the Kona coast were also in fine foliage. Those at Honaunau, Napoopoo, and Kailua, formerly badly eaten, were now quite free from the marks of leaf-roller caterpillars.

Vespa occidentalis Cresson.—Mr. Swezey reported collecting this wasp in Olokele Canyon, Kauai, August 21. This is some distance from places of previous record on that island, it being very common in the Kokee region and between there and the Na Pali coast.

Maruca testulalis Geyer. — Mr. Swezey reported rearing this moth from string beans and lima beans at Waimea, Kauai, in August. This is the first record of its occurrence on that island.

Pseudococcus nipae (Mask.).—Mr. Swezey reported that this mealybug is becoming rare on avocados, figs, etc., on Kauai. This is no doubt due to the activity of its introduced parasite, *Pseudaphycus utilis* Timberlake. Mr. Giffard stated that the same was true on Hawaii.

OCTOBER 1, 1925.

The 237th meeting of the Hawaiian Entomological Society was held at the usual place. There being none of the officers present, Mr. Giffard was chosen to take the chair, and Mr. Bryan to act as secretary. Members present were Messrs. Bryan, Giffard, Hadden, Rosa, Swezey, and Van Zwaluwenburg. Miss Henderson was a visitor.

The minutes of the previous meeting were approved as amended.

NOTES AND EXHIBITIONS.

Canadian Butterflies.—Mr. Swezey exhibited several boxes of butterflies collected by him in Canada, around Banff and Mount Asiniboine, and a few also in California in 1922.

Plagithmysus New Species from Kauai.—A fine specimen of what appears to be a new species of Plagithmysus beetle was exhibited by Mr. Swezey. It had issued from a piece of dead branch of Pipturus tree collected at Kumuwela Ridge, Kauai, August 16, 1925.

Aphis maidis Notes.—Mr. Hadden reported his observation of the rapid rate of reproduction of this species of plant louse under favorable conditions. He found that one female would in twenty-six days produce 334 offspring, and that within fifteen days these were in turn ready to reproduce. If all lived, at this rate there would be ten billion descendants in three months and twenty-five billion in four months.

Lyctus sp.—Mr. Van Zwaluwenburg reported rearing a specimen of this powder-post beetle from a block of *Spondias* sp. grown on Vineyard Street, and brought in by Mr. McEldowney.

This was apparently the same species that was reared from an oak panel at Paia, Maui, by Mr. Swezey in 1918. Its numbers in this instance indicate its firm establishment on Oahu. [It was later determined by Doctor Van Dyke as *Lyctus linearis* (Goetze), a cosmopolitan species.—Ed.]

Tineola biselliela Hum.—Mr. Van Zwaluwenburg reported that a specimen of this tineid moth had been reared from a horsehair girth brought in by Doctor Lyon. This species does not make a case, but works within a loose web. It has been previously found eating brushes at the College of Hawaii by Doctor Illingworth, and was reared by Mr. Giffard from an old woolen hat at his bungalow at Twenty-nine Miles, Olaa, Hawaii, in 1923.

Paratenodera sinensis (Sauss).—Mr. Bryan exhibited a specimen of this Oriental preying mantis, which had been captured by Miss Carey D. Miller, of the University of Hawaii faculty, at her home in Manoa Valley, September 25. The specimen was inside the house, which is near the end of the Manoa car line, and its presence indicates that the descendants of the egg masses brought from Kohala by Mr. Swezey in June, 1922, have become well established. (See Proceedings, VI, p. 9, 1924.)

Formicaleo perjurus Walker.—Mr. Bryan exhibited a specimen of ant-lion captured by Mr. A. F. Judd at Kaupao on the dry west end of Molokai, July 18, 1925. It is the first record of an ant-lion on Molokai, and is probably *Formicaleo perjurus* Walker, but no description, or specimens, are available for making positive determination. *F. perjurus* was first collected on Oahu (Beechey expedition) and on Maui by Blackburn, hence this is quite likely to be the same species. Furthermore, the specimen is smaller than *F. wilsoni,* occurring commonly in certain dry regions on Hawaii, and it lacks the blackish clouding of the nervules which gives an irrorated appearance to the forewings of *wilsoni.* Both of these characters are mentioned by McLachlan in comparing the two species when he described *wilsoni.* (See Ann. Mag. Nat. Hist. (6), X, p. 179, 1892.)

Genitalia of Hawaiian Plagithmysides.—Mr. Giffard reported that, during a study of certain species of the cerambycid group Plagithmysides, the dissection of the male genitalia of remote species in each of the genera Plagithmysus, Clytarlus, and Callithmysus, indicated that the characters in each were identical, or at most, if any slight difference at all, it was unimportant. The species dissected were, as follows:

One *Plagithmysus darwinianus* Shp., Kilauea, Hawaii, 4000 feet elevation.

One *Plagithmysus aequalis* Shp., Waimea Mountains, Kauai, 4000 feet elevation.

One *Plagithmysus pulverulentus* Motsch., Tantalus, Oahu, 1500 feet.

One *Clytarlus pennatus* Sharp, slopes Haleakala, Maui, high elevation.

One *Callithmysus cristatus* Sharp, Tantalus, Oahu, 1500 feet elevation.

Each of the above species is confined to the island specified.

The remainder of the meeting was devoted to a discussion of the features of Plagithmysus, and the distribution and habits of this and other endemic forest insects.

NOVEMBER 5, 1925.

The 238th meeting of the Hawaiian Entomological Society was held at the usual place. There were present Messrs. Hadden, Willard, Van Zwaluwenburg, Giffard, Muir, Swezey, Rosa, Williams, Bryan, Crawford, Illingworth and Fullaway, members; and Miss Henderson, visitor.

The minutes of the previous meeting were read and approved with corrections.

A vote of thanks to the trustees of the Hawaiian Sugar Planters' Association for printing 1924 Proceedings was moved, duly seconded and carried.

Mr. Irwin Spalding was proposed for membership by Mr. Giffard, and seconded by Mr. Muir.

PAPERS.

"Mango Weevil—Correction of Name."

BY O. H. SWEZEY.

"Kilauea Moths."

BY O. H. SWEZEY.

NOTES AND EXHIBITIONS.

Monocrepidius exsul Shp.—Mr. Van Zwaluwenburg recorded the collection of a larva of *Monocrepidius* on Eastern Island, Midway, by Tanager expedition. Presumably the form present is *M. exsul*.

Egg-Sucking Habit of Heteroptera.—Mr. Muir recorded Mr. Pemberton's observation in the Philippine Islands of egg-sucking bugs in connection with weevils.

Ataenius inops Horn.—Mr. Swezey exhibited a specimen of this aphodiid beetle which had been collected from soil containing a good deal of decaying vegetable matter at Honolulu, May 15, 1924. Apparently this beetle has not been previously recorded here. At the Bishop Museum are two specimens collected by Bridwell, Honolulu, 1917, without reference to habitat.

Dryophthorus pusillus Shp.—Mr. Swezey exhibited a specimen of this cossonid weevil collected by Mr. Williams in a dead stem of Cibotium in Kohala, Hawaii, September 28, 1925. The species is common in the tree-ferns of Mount Tantalus, Oahu, and this is the first record of it from another island. In the Fauna Hawaiiensis it is recorded as collected by Blackburn on Oahu "in stems of the tree-fern." Doctor Perkins remarked that he had never met with the species. Later, he became familiar with it on Tantalus, where it was also collected by Mr. Giffard.

Tineola uterella Walsm.—Mr. Swezey reported that in an examination of a lot of seventy-nine larval cases of this tineid moth collected in basement of the experiment station building, 70 per cent had been parasitized, as revealed by the presence of the white cocoons of the parasite inside the cases. All had previously issued, both the moth and its parasite, *Protapanteles hawaiiensis* Ashm., except that two of the cases contained larvae of the moth. An examination of fifty larval cases collected in the basement of his house in Manoa showed 58 per cent had been parasitized.

Spalangia cameroni Perkins. — Mr. Swezey reported having reared seventeen of this parasite from fifty-three puparia of the horn-fly collected at Gilbert, Oahu, September 2, 1925. This is equivalent to 32 per cent parasitization, and was rather unexpected, as it is such a dry region and very hot at the time, and seemed very unfavorable for parasites of any kind. One of the same parasites issued from a puparium of *Limnophora arcuata* Stein, an anthomyid, collected in cow-dung along with the horn-fly puparia.

Microbracon pembertoni, a Synonym of M. mellitor Say.— Mr. Willard called attention to the fact that this braconid was considered a new species in 1918, when it was described by J. C. Bridwell and named *Microbracon pembertoni.* (Proc. Haw. Ent. Soc., IV, No. 1, p. 115, 1919.) C. W. F. Muesebeck, in "A Revision of Parasitic Wasps of the Genus Microbracon Occurring in America, North of Mexico" (Proc. U. S. Nat. Museum, 67, No. 2580, p. 65, 1925), after comparing paratypes of *pembertoni* in the United States National Museum with Say's description of *mellitor* in 1836, considers *pembertoni* a synonym of *mellitor.*

The Stimulus of Microbracon mellitor to Attack and Oviposition.—While studying the life history of this parasite, Mr. Willard found that the stimulus to attack its host and oviposit occurred only when the host larva was enclosed by some covering. In nature, the caterpillar of the pink bollworm, *Pectinophora gossypiella* Saunders, is stung and oviposition occurs while it is within the cotton boll. In the laboratory also, attack and oviposition upon caterpillars within bolls was secured without difficulty; but no notice was taken of caterpillars that had been removed from the bolls and allowed to crawl about in the parasite cages. Oviposition was readily secured by enclosing a caterpillar in a gelatin capsule about one-half inch long, such as physicians use for administering powders, and which had been perforated in several places by a needle-point. When a larva enclosed in this manner was placed in a cage with gravid females, the stimulus was immediately evident. A female would soon locate one of the perforations, through which it would sting and paralyze the larva. That the stimulus was due to a moving larva within a covering, is further indicated by the fact that *M. mellitor* readily stung, and oviposited upon, maggots of the melon-fly *Bactrocera cucurbitae* (Coq.), which were similarly placed in gelatin capsules. The poison injected by the parasite killed instead of paralyzing the maggots, which soon began to decompose, and the larvae which hatched from the parasite eggs could not develop. The stimulus to attack was also shown in the case of the larvae of the Mediterranean fruit-fly, *Ceratitis capitata* Wied., in fruits of *Mimusops elengi*. One of these fruits, the skin of which had been perforated with a needle, and which contained nine *C. capitata* larvae, was placed in a cage with female *M. mellitor*. Within two hours all the maggots had been stung and killed; but no eggs were found in the fruit.

By using transparent gelatin capsules, as previously described, and glass sterilizing tubes as parasite cages, the process of stinging, paralyzation and oviposition was clearly visible through a binocular microscope. When a perforation in the capsule was located, the parasite inserted its ovipositor rather cautiously until it came in contact with the caterpillar. The ovipositor was then given a quick thrust, and immediately withdrawn. During the fraction of a second required for the thrust, the skin of the caterpillar was pierced and enough poison injected to cause paralyzation. After the ovipositor was withdrawn, the parasite rested several minutes and again inserted the ovipositor, pricking the caterpillar several times to ascertain the degree of paralyzation. As soon as the larva became quiet, an egg was deposited upon it.

Mating of Parisierola emigrata Rohwer. — Mr. Willard submitted the following note on the mating habits of this bethylid. Mating occurs within the cocoons, which are spun by the mature larva near the remains of the host caterpillar, and in which the pupa stage is passed. The males in each group of cocoons emerge from one to two days before the females. The proportion of males to females is about one to four. The males gain access to the females by biting holes in the cocoons through which they enter. These holes serve as emergence holes for the females subsequent to mating. Large numbers of adults were under observation, but no attempts to mate were observed after the females had emerged. Many instances of mating within the cocoon of the female were distinctly seen through the binocular microscope.

Lycaenid Larva Attacking Litchi in Hong Kong.—Mr. Fullaway exhibited specimens of the lycaenid butterfly *Deudorix epijarbas* Moore reared from larvae found destroying the fruits of the litchi in Hong Kong.

California Cerambycidae.—Mr. Hadden exhibited a collection of California Cerambycidae made previous to his return to the Islands in 1925.

DECEMBER 3, 1925.

The 239th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station of the Hawaiian Sugar Planters' Association at 2:30 p. m., President F. X. Williams presiding. Other members present were Messrs. Bryan, Ehrhorn, Giffard, Hadden, Muir, Rosa, Swezey, Van Zwaluwenburg, and Willard. Miss G. Henderson was a visitor.

In the absence of the secretary, Mr. Willard was appointed secretary pro tem.

Owing to the illness of the secretary, the minutes of the previous meeting were not at hand.

Mr. Irwin Spalding was unanimously elected an active member of the society.

The following officers were unanimously elected for the year 1926: President, H. F. Willard; Vice-President, R. H. Van Zwaluwenburg; Secretary-Treasurer, E. H. Bryan, Jr.

Executive Committee: W. M. Giffard, F. Muir.

Mr. Muir reported that an effort was being made by the Pan-Pacific Union to have Honolulu made the 1928 meeting place of the International Entomological Congress. He remarked that the entomologists of Honolulu had met at the Pan-Pacific Research Institute and heartily endorsed this effort. The Pan-Pacific Union appointed the following committee to work toward obtaining this meeting for Honolulu: F. Muir, W. M. Giffard, and D. L. Crawford. Mr. Muir stated that the Pan-Pacific Union had sent word to Dr. L. O. Howard, asking him to put the matter before the entomological section of the American Association for the Advancement of Science at their meeting in Kansas City in December, 1925, asking him to advise the members of the section of the attitude of the Pan-Pacific Union and the entomologists of Honolulu, and urgently request that the meeting be held here in 1928.

Upon motion by Mr. Giffard, it was voted that the Executive Committee draft appropriate resolutions strongly endorsing the above effort by the Hawaiian Entomological Society, and that a copy of these resolutions be forwarded to the Pan-Pacific Union, and one be embodied in the minutes of the society.

ADDRESS OF THE RETIRING PRESIDENT

"Some Spider Wasps of the Family Psammocharidae or Pompilidae." *

BY DR. F. X. WILLIAMS.

PAPERS.

"Notes on Hawaiian Orthoptera."

BY MORGAN HEBARD.

(Presented by E. H. Bryan, Jr.)

"New Hawaiian Chalcid-Flies."

BY P. H. TIMBERLAKE.

(Presented by title by O. H. Swezey.)

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* This paper is not published herewith, as it is embodied in an entomological bulletin to be issued soon by the Experiment Station, Hawaiian Sugar Planters' Association.—Editor.

"A New Species of Fruit-fly Parasite from Formosa (Braconidae)."

BY D. T. FULLAWAY.

(Presented by title by H. F. Willard.)

"Arrenophagus Albipes Girault in Hawaii."

BY O. H. SWEZEY.

"Casinaria Infesta (Cress.) in Hawaii." *

BY O. H. SWEZEY.

"Some Remarks on Dr. Hem Singh-Pruthi's Paper on the Morphology of the Male Genitalia in Rhynchota."

BY F. MUIR.

NOTES AND EXHIBITIONS.

Latrodectes mactans Fabr. — Mr. Hadden reported taking a specimen of this spider, called the hourglass spider, black widow, or shoe-button spider, on the lower slopes of Koko Head, November 25, 1925. The spider had utilized a hole in the ground and some of the surrounding brush to make a nest in. When first seen it was clinging upside down near the mouth of the funnel of its web, so that the red hourglass on its abdomen could be plainly seen. When found it was feeding on the larva of *Spodoptera maurit~~a~~ia.* Reference: W. B. Herms' "Medical and Veterinary Entomology, 1923."

Stictocephala festina (Say). — Specimens of this membracid, which were taken at Kahala (Waialae Ranch) on November 13, 192~~4~~5, were exhibited by Mr. Hadden. Mr. Bryan reported it

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*In connection with this paper, Mr. Swezey exhibited also a closely related species which he had reared from cocoons found at Waialae Ranch, Oahu, October 28, 1925, the first observance of this new immigrant in Hawaii. Specimens were sent later to the United States Bureau of Entomology, Washington, D. C., where Mr. Cushman identified them as *Hyposoter exiguae* (Vier.), originally described from California.—Editor.

having been taken on the University of Hawaii grounds by students. It is found here on alfalfa and grasses, and is probably a new immigrant from California, brought here on hay. It is found in California, Mexico, Arizona, Texas, Colorado, Pennsylvania, and throughout the southern states and in the West Indies.

Phloebius sp.—Mr. Bryan reported that a specimen of anthribid beetle, which had been collected by Mr. Bissell on a window of the Vida Villa Hotel, Honolulu, January, 1923 (see Proc. Haw. Ent. Soc., V, 5, p. 344), had been sent to Mr. A. M. Lea of Adelaide, South Australia, for determination. Mr. Lea had returned the specimen with the following note: "We have nothing exactly like it in our collections, but it would be hardly good enough to name a single specimen so close structurally to *P. gigas,* of which I send sexes for comparison." *Phloebius gigas* Fabr. is a fairly common species in Queensland. The immigrant found in Honolulu is a very closely allied species.

Aphelinus maidis Timb.—Mr. Swezey reported as follows on the hyperparasitism of this aphid parasite by *Aphidenencyrtus schizoneurae* Ashm.: *Aphis sacchari* at Experiment Station, Hawaiian Sugar Planters' Association February 16, 1925, 99 per cent hyperparasitized; ditto, March 6, 98 per cent. *Aphis maidis* at Makiki nursery, June 17, 1925, 56 per cent; ditto, June 29, 40 per cent. *Aphis sacchari* at Waialua, October 9, 1925, 54 per cent. *Aphis maidis* at Hind-Clarke dairy, Wailupe, November 13, 1925, 60 per cent.

Melittobia hawaiiensis Perk. — Mr. Swezey reported rearing this eulophid from a Megachile nest collected at Waimea, Kauai, August 8, 1925. The Megachile nest was in the groove of a tongue-and-groove board in a lumber-pile. There were seventeen cells in the nest, and Melittobia issued abundantly from fifteen of the cells; the other two contained dead larvae. This equals 88 per cent parasitization, and indicates a strong check on the Megachile. The species of the latter was probably *timberlakei* Cockerell. Both it and *palmarum* Perk. are known to occur there. The nest appeared to be of the former, however, although no bees issued from the nest.

Spodoptera mauritia (Boisd.) — Mr. Swezey reported having found an extra large cluster of eggs of this moth on a grass-leaf, and on counting them, found there were 586 in the cluster.

Pseudococcus boninsis (Kuwana).—Mr. Ehrhorn called attention to a paper by Mr. Harold Morrison, on the "Identity of the Mealy Bug Described as *Dactylopius calceolariae* Maskell" which was published in the September 1, 1925, issue of the Journal of Agricultural Research. In this paper it is pointed out that the gray sugar-cane mealybug, which has been identified by many as *Pseudococcus calceolariae,* is not *calceolariae* at all, but *Pseudococcus boninsis* (Kuwana), which was described from sugar-cane from the Bonin Islands by Kuwana in 1909. Reference: Jour. N. Y. Ent. Soc., 17, p. 161, 1909.

Death of Dr. Maxwell Lefroy.—Mr. Swezey called attention to the recent death of Professor Maxwell Lefroy, and read a newspaper clipping from a London paper which described the circumstances surrounding his death.